

CARROLL COUNTY BRIDGE NO.119
(Wise's Ford Bridge)
County Road 300 West, spanning Deer Creek
2 miles southwest of Camden
Camden Vicinity
Carroll County
Indiana

HAER No. IN-70

HAER
IND
8-CAM.V,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Mid-Atlantic Region
National Park Service
Department of the Interior
Philadelphia, Pennsylvania 19106

HISTORIC AMERICAN ENGINEERING RECORD

CARROLL COUNTY BRIDGE NO. 119

(Wise's Ford Bridge)

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Location: This bridge, located on County Road 300 West spanning Deer Creek, is 2.0 miles southwest of the Camden vicinity, Carroll County, Indiana

UTM: 16.535340.4494190

Quad: Flora Quadrangle

Indiana - Carroll County

Date of

Construction: Construction began circa November, 1887
Construction completed circa September, 1888
Constructed by: Substructure contract awarded to C.J. McGreevy of Carroll County, Indiana
Superstructure contract awarded to Indiana Bridge Company, Muncie, Indiana
Engineer: Mr. Craven Smith appointed by Carroll County Commissioners on March 16, 1887

Present Owner: Board of Carroll County Commissioners
Courthouse, Delphi, Indiana 46923

Present Use: Vehicular Bridge

Significance: Carroll County Bridge No. 119 is a Whipple thru truss, which is a Pratt truss with double inter-sections. The bridge still sits upon cut stone abutments and wing walls, and retains most of its original members. Carroll County Bridge No. 119 is one of the few structures which remains as a fine example of a dwindling number of structures fabricated by one of Indiana's most prolific bridge builders. This bridge is of local significance.

Project Information: This documentation was undertaken in January, 1991 in accordance with the Memorandum of Agreement between the Carroll County Commissioners, the Indiana Department of Transportation, the Advisory Council on Historic Preservation, the Federal Highway Administration, and the Indiana State Historic Preservation Officer as a mitigative measure prior to the demolition of the bridge.

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Beam, Longest & Neff, Inc.
Consulting Engineers
8126 Castleton Road
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Description

Carroll County Bridge No. 119 is a Whipple thru truss, which is a Pratt truss with double intersections. This 174-foot long, single span truss with a deck width of 16.2 feet, typifies the many double intersection thru Pratt-Whipple structures which the Indiana Bridge Company of Muncie, Indiana constructed in-state and out. Its twelve panels are separated by intermediate verticals made of reinforced I-beams of two sizes (decreased towards center span) riveted to pin-plates above and below, and stabilized by cylindrical tie rods running horizontally at mid-height across the panels. Rectangular eyebars serve as the diagonals except for those attached to the tops of three central verticals which are cylindrical with turnbuckles and stretch towards the span's end. Two die-forged eyebars (four in the three central panels) make up the lower chord. Girder floor beams are double U-bolted to the lower pins, supporting the asphalt-filled 16-foot corrugated steel pan deck. The bridge is seated on its original cut stone abutments and wingwalls. This bridge retains most of its original members and thus remains a good example of a structure fabricated by one of Indiana's most prolific bridge builders. The pierced nameplate, decoratively latticed portals and portal bracing remain largely intact.⁽³⁾

Designer of the Whipple Trusses

Squire Whipple patented the trapezoidal truss in 1847 which launched a new American industry, the manufacture and erection of iron bridges.⁽⁴⁾

Whipple showed how to analyze the stresses in bridge trusses (framework of wooden beams or metal bars that support the bridge), using simple but accurate calculations. Whipple avoided the use of algebraic equations and trigonometric functions and explained each step in as simple terms as possible. So important was his first book that its publication date is used by historians to mark the beginning of the use of scientific bridge design in America.⁽⁴⁾

Builder/Fabricator

The Indiana Bridge Company, the oldest manufacturing plant in Indiana, was founded in May 17, 1886. In the early years the company's primary activities were construction of small truss spans and leg bridges, particularly for county commissioners in Indiana and adjoining states. This field prompted the design, fabrication, and erection of girder type and longer span bridges over rivers and lowlands. The name Indiana Bridge Company was becoming synonymous with the best bridge construction.⁽²⁾

By 1894, the Indiana Bridge Company was a well known and respected name in steel construction. The company had expanded to provide three types of services: engineering, manufacturing, and erecting. A staff of skilled engineers designed new structures to meet the requirements of their customers. The final step was erection. From seven to ten crews were busy summer through fall using whatever material and equipment was available. Trestles and falsework were cut from timbers of the forest. The power of hauling and raising the steel was furnished by oxen or horses.⁽²⁾

History of Carroll County Bridge No. 119

March 16, 1887

Joseph McCain, a resident of Carroll County since 1826, and unnamed others presented a petition to the Board of Carroll County Commissioners for the construction of a new bridge across Deer Creek at Bridge No. 119 (Wise's Ford Bridge) through property owned by a resident named Wise. The County Commissioners were John G. Cornall, Andrew J. Metsker, and George W. Shanklin. The bridge was deemed necessary by the commissioners for the public convenience and utility. Being an improvement within the law, the commissioners ordered that an appropriation from the county treasury would be required for the construction.⁽¹⁾

Craven Smith of Carroll County, Indiana was appointed by the Carroll County Commissioners as engineer and superintendent for the bridge construction, as he had been for numerous other county road

and bridge projects. He was ordered to prepare a survey and estimate for the bridge, to prepare plans and specifications in accordance with the survey and estimate, and to advertise for bids for the purpose of letting the construction contract. The commissioners set the date of October 25, 1887 at 1:00 P.M. as the bid opening date of proposals for the construction of the substructure and approaches. The date of October 26, 1887 at 1:00 P.M. was set as the bid opening date of proposals for the construction of the superstructure. The terms of payment of each were established as one-half of the total in cash upon the completion and acceptance of the construction by the commissioners and engineer/superintendent, and the remaining one-half of the total in one year from the completion date which amount would accrue interest at a rate of 6% per year.⁽¹⁾

October 13, 1887

As directed by the commissioners, Craven Smith gave legal notice to bridge contractors of the letting of contracts for the bridge superstructure and bridge substructure. The bid opening date for the superstructure contract was changed from 1:00 P.M. on October 26, 1887 to 1:00 P.M. on October 13, 1887; the bid opening date for the substructure contract was changed from 1:00 P.M. on October 25, 1887 to 1:00 P.M. on October 13, 1887. After 1:00 P.M., Craven Smith opened each of the various submitted proposals for the bridge superstructure and the bridge substructure. The commissioners deferred the selections of contractors until the morning of October 14, 1887 to allow further examination of the various plans and specifications. Only County Commissioners John G. Cornall and George W. Shanklin were present.⁽¹⁾

October 14, 1887

County Commissioners John G. Cornall, Andrew J. Metsker, and George W. Shanklin in concurrence with Craven Smith let the contract for the bridge substructure to Cornelius J. (C.J.) McGreevy in accordance with his submitted bid. On this date, C.J. McGreevy entered into an agreement with the Board of Carroll County Commissioners to furnish all materials and labor for the⁽¹⁾

construction of the abutments and approaches. As specified in the agreement, the abutments were to be 170 feet apart, and constructed of Ellettsville Limestone. The design of the abutments was to conform to the specifications for masonry of the Tippecanoe River bridge at Sheets Mill. The approaches were to consist of about 5,000 cubic yards of earthwork. Payment for the abutment construction was established at \$8.70 per cubic yard of masonry, and \$0.21 per cubic yard of earthwork was to be paid for the approaches. The terms of payment were previously established at the commissioners' meeting of March 16, 1887. The final portion of the agreement established Craven Smith as the sole judge of quantity and quality of work performed; he was to be the final authority on all decisions affecting the construction, and could make such modifications as he saw fit, to conform the abutment construction to that of the Tippecanoe River bridge. The agreement was signed by the three county commissioners and C.J. McGreevy.⁽¹⁾

After this agreement was executed, C.J. McGreevy, with W.W. VanGundy and Abner T. Bowen, a banker, acting as sureties, posted a \$2,000.00 (performance) bond for completion of the work. The terms of the agreement obligated C.J. McGreevy to perform the construction in accordance with the plans and specifications and instructions of Craven Smith. C.J. McGreevy was to provide the labor, materials, and boarding for the laborers. The agreement was executed by the three county commissioners, C.J. McGreevy, W.W. VanGundy, and Abner T. Bowen.⁽¹⁾

Following the receipt of bids for construction of another bridge in the county, the county commissioners in concurrence with Craven Smith, let the contract for the bridge superstructure to the Indiana Bridge Company of Muncie, Indiana in accordance with their submitted bid. On this date, the Indiana Bridge Company through an unnamed agent, entered into an agreement with the Board of County Commissioners to furnish all materials and to construct the superstructure of the iron bridge. As detailed in the agreement, the bridge was to be 170 feet long and constructed on piers 166 feet apart; the bridge was to have one travel lane of 16 feet clear width. The superstructure plans and specifications were amended to the contract.⁽¹⁾

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As part of the agreement, the county commissioners agreed to have the substructure constructed and at right angles to the line of the superstructure by August 1, 1888; in turn, the Indiana Bridge Company agreed to complete construction of the superstructure by September 1, 1888. Payment for the superstructure construction was established at \$20.35 per linear foot. The terms of payment were previously established at the commissioners' meeting of March 16, 1887. The agreement further specified that if the substructure was not completed by August 1, 1888, the county commissioners would pay the Indiana Bridge Company 80% of the cost of the bridge upon its completion (as opposed to the previously established amount of 50% from the commissioners' meeting of March 16, 1887) as the initial payment. The agreement was executed by the Indiana Bridge Company and the three county commissioners with the stipulation that the bridge company agent had specific written authority to make settlement of and receive payment for the construction; otherwise, no payments were to be made to the Indiana Bridge Company by the county commissioners.⁽¹⁾

Following the execution of the agreement, the Indiana Bridge Company posted a (performance) bond for the completion of the work. The amount of the bond was not specified in the meeting minutes, but it was accepted and approved by the county commissioners.⁽¹⁾

August 10, 1888

In a report to the county commissioners, Craven Smith reported the completion of the abutments. A final invoice was submitted to the county commissioners for a balance due to C.J. McGreevy of \$1,771.70 which was payable in one year and which would accrue interest at 6% per year.⁽¹⁾

After a personal inspection of the abutment construction by the county commissioners, the work and engineer's report were accepted. The county auditor was ordered to issue a warrant for the balance (plus interest) due C.J. McGreevy and payable in one year. The county commissioners were Andrew J. Metsker, George W. Shanklin, and Solomon Fouts.⁽¹⁾

There is no further recorded history of Bridge No. 119 (Wise's Ford Bridge) over Deer Creek. The county commissioners' meeting minutes were reviewed for several subsequent years, and the final entry for this bridge was described for August 10, 1888. The Delphi Weekly Times, the local weekly newspaper, file was searched at the Delphi Public Library from March 18, 1887 (the first newspaper issue after the date of the initial petition) through June 3, 1887. Newspaper issues from June 10, 1887 through 1900 are missing.

A diligent attempt was made to determine the historical significance of Carroll County Bridge No. 119. A detailed listing of the references which were researched has been provided.

SOURCES OF INFORMATION

A. Bibliography

1. Barker, James A., Outdoor Indiana, March, 1976.
2. Carroll County Board of County Commissioners' Meeting Minutes for years 1886, 1887, and 1889 which are prepared and maintained in the Carroll County Auditor's Office.
3. Cooper, James L., Iron Monuments to Distant Posterity, Indiana's Metal Bridges, 1870-1930. 1984.
4. HABS/HAER inventory survey card provided by the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology. 1984.
5. Taylor & Gaskin, Inc. Indiana Bridge - A Hoosier Tradition founded 1886. Detroit, Michigan: Taylor & Gaskin, Inc. 1952.
6. Weitzman, David. Traces of the Past, Berne Convention. 1980.

B. Libraries

1. Delphi Public Library
222 East Main Street
Delphi, Indiana 46923

Topics reviewed included Bridges, Indiana Bridges, Metal/Iron Truss Bridges, Indiana Bridge Company, Carroll County History and Wise's Ford Bridge

also

Delphi Weekly Times Newspaper File (microfilm)
Newspapers from March 18, 1887 to June 3, 1887 were reviewed; the newspaper issues from June 10, 1887 to 1900 were missing and not available.

2. Indiana State Library
Indiana Division
140 North Senate Avenue
Indianapolis, Indiana 46204

Topics reviewed included Bridges, Indiana Bridges, Metal/Iron Truss Bridges, Indiana Bridge Company and Carroll County

also

Indianapolis Newspapers Card File
Topics reviewed included Bridges, Indiana Bridges, Metal/Iron Truss Bridges, Indiana Bridge Company and Carroll County

C. Organizations and Institutions

Ms. Pamela Bennett, Director
Indiana Historical Bureau
140 North Senate Avenue
Indianapolis, Indiana 46204

Carroll County Historical Society
Carroll County Courthouse
Delphi, Indiana 46923

Professor James Cooper
History Department
DePauw University
Greencastle, Indiana 46135

Mr. Marsh Davis
Historic Landmarks Foundation of Indiana
340 West Michigan Street
Indianapolis, Indiana 46202

Ms. Connie McBirney
Indiana Historical Society
315 West Ohio Street
Indianapolis, Indiana 46202

Mr. Patrick Ralston
State Historic Preservation Officer
Division of Historic Preservation and
Archaeology
Indiana Department of Natural Resources
402 West Washington Street - Room 274
Indianapolis, Indiana 46204

Professor Andrew Seager, Director
Drawings and Documents Archive
Center for Environmental Design, Research and
Service
College of Architecture and Planning
Ball State University
Muncie, Indiana 47306

Mr. Terry Warner
Indiana Bridge Company
1810 South Macedonia
Muncie, Indiana 47302

D. Publications and Maps

An Illustrated Historical Atlas of Carroll County, Indiana.
O.L. Baslein & Co., Chicago, Illinois. 1874.

Carroll County Bridge Reinspection Report, AECON
Engineers/Architects, 1985 and 1987.

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ments, Towns, Development of Modes of Travel,
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Carroll County Interim Report, Indiana Historic Sites
and Structures Inventory, Historic Landmarks Foundation
of Indiana, 1980.

Carroll County Map, War History and Latest Atlas,
The Delphi Journal and the Hoosier Democrat
(newspapers), 1919.

General Highway and Transportation Map of Carroll
County, Indiana, Indiana State Highway Commission
and U.S. Department of Agriculture, Bureau of Public
Roads, 1937.

History of Carroll County, Indiana. Chicago: Kingman
Brothers. 1882.

History of Carroll County, Indiana, Its People,
Industries and Institutions, John C. Odell, 1916.

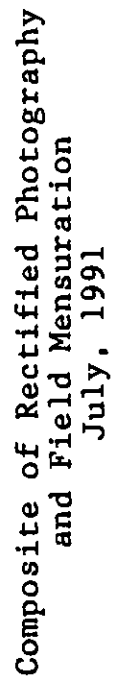
History of Carroll County, Indiana with Illustrations
and Biographical Sketches of Some of its Prominent Men
and Pioneers, T.B. Helm, 1882.

Indiana Highway Survey Commission Map of Carroll County, Indiana State Highway Commission, 1936.

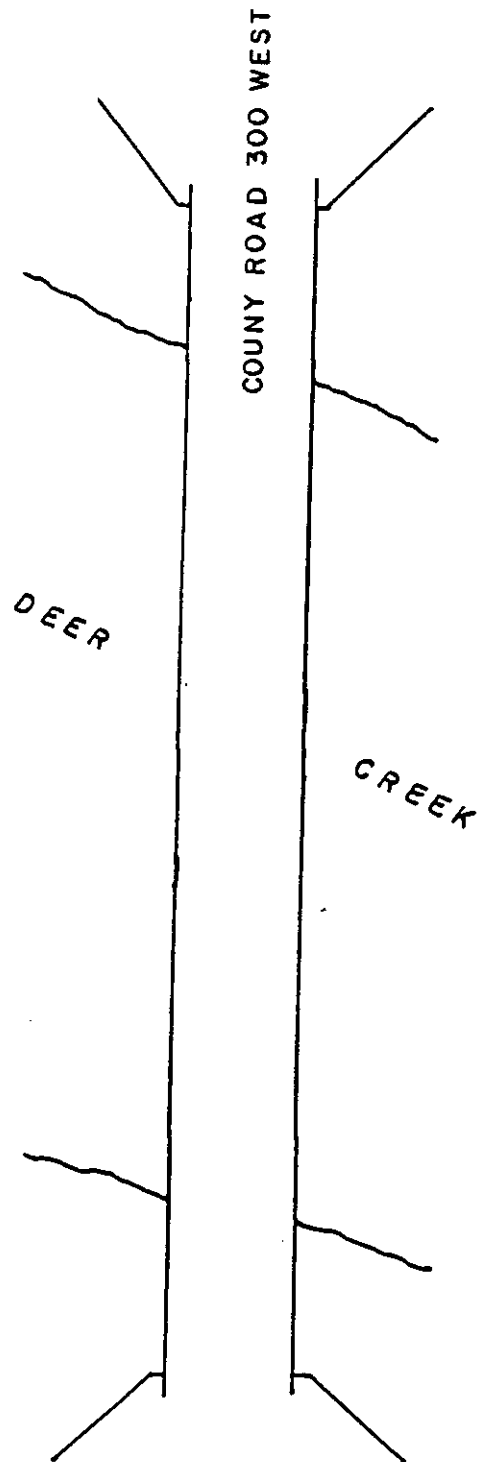
Map of Carroll County, Indiana, The Delphi Journal (newspaper), 1898.

Recollections of the Early Settlement of Carroll County, Indiana, James Hervey Stewart, 1872.

The Carroll County Sesquicentennial Publication: 1824-1828 - 1974-1978. A Photographic Portrayal of Old Life in a Hoosier Community, The Pictorial History of Carroll County, C.E. Gerard and Michael G. Griffey, 1977.



**Composite of Rectified Photography
and Field Mensuration
July, 1991**



Site Plan
BRIDGE 119
ACROSS
DEER CREEK
AT
CARROLL COUNTY
INDIANA